

REMARKS

In the Office Action, the Examiner rejected claims 1-7 and 12-17 and withdrew claims 8-11 and 18-20. By this paper, the Applicant has cancelled claims 8-11 and 18-20, added new claims 21-26, and amended claim 2 to establish proper antecedent basis. These amendments do not add any new matter. Upon entry of these amendments, claims 1-7, 12-17, and 21-26 remain pending in the present application and are believed to be in condition for allowance. In view of the foregoing amendments and the following remarks, the Applicant respectfully requests reconsideration and allowance of all pending claims.

Allowable Subject Matter

In the Office Action, the Examiner objected to claims 4 and 14 as being dependent upon a rejected base claim, but stated that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Applicant would like to thank the Examiner for indicating the potential allowability of these claims. At this time, however, the Applicant believes that all of the pending claims are allowable and has thus chosen not to rewrite these claims in independent form.

Claim Rejections under 35 U.S.C. § 112

The Examiner rejected claim 2 under 35 U.S.C. § 112 because “[c]laim 2 recites the limitation ‘the plurality of common phase reference signals’. [sic] There is

insufficient antecedent basis for this limitation in the claim.” Office Action, page 2. As described above, the Applicant has amended claim 2 to correct this oversight and establish proper antecedent basis. In view of this amendment, the Applicant respectfully requests that the Examiner withdraw the rejection under Section 112 against claim 2.

Claim Rejections under 35 U.S.C. § 103(a)

The Examiner rejected claims 1, 3, 12 and 13 under 35 U.S.C. § 103(a) as being unpatentable over Frank (U.S. Patent Publication No. 2004/0063468, hereafter referred to as “the Frank reference”) in view of Trippett et al. (U.S. Patent No. 6,130,643 hereafter referred to as “the Trippett reference”). The Examiner rejected claims 2, 5 and 15 under 35 U.S.C. § 103(a) as being unpatentable over the Frank and Trippett references and further in view of Yetter (U.S. Patent No. 5,045,859, hereafter referred to as “the Yetter reference”). The Examiner rejected claims 6 and 16 under U.S.C. § 103(a) as being unpatentable over the Frank, Trippett, and Yetter references and further in view of Ylitalo (U.S. Patent Publication No. 2003/0124994, hereafter referred to as “the Ylitalo reference”). The Examiner rejected claims 7 and 17 under 35 U.S.C. § 103(a) as being unpatentable over the Frank, Trippett, and Ylitalo references. The Applicant respectfully traverses these rejections.

Legal Precedent

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (B.P.A.I. 1979).

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination or modification. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d. 1430 (Fed. Cir. 1990). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985).

Moreover, the Applicant submits that, during patent examination, the pending claims must be given an interpretation that is *reasonable* and *consistent* with the specification. See *In re Prater*, 162 U.S.P.Q. 541, 550-51 (C.C.P.A. 1969); *In re Morris*, 44 U.S.P.Q.2d 1023, 1027-28 (Fed. Cir. 1997); see also M.P.E.P. § 2111 (describing the standards for claim interpretation during prosecution). Indeed, the *specification* is “the primary basis for construing the claims.” See *Phillips v. AWH Corp.*, 75 U.S.P.Q.2d 1321 (Fed. Cir. July 12, 2005) (citations omitted). It is usually dispositive. See *id.* Interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. See *In re Cortright*, 49 U.S.P.Q.2d 1464, 1468 (Fed. Cir. 1999); see also M.P.E.P. § 2111. That is, recitations of a claim must be read as they

would be interpreted by those of ordinary skill in the art. *See Rexnord Corp. v. Laliram Corp.*, 60 U.S.P.Q.2d 1851, 1854 (Fed. Cir. 2001); *see also* M.P.E.P. § 2111.01. In summary, an Examiner, during prosecution, must interpret a claim recitation as one of ordinary skill in the art would reasonably interpret the claim in view of the specification. *See In re American Academy of Science Tech Center*, 70 U.S.P.Q.2d 1827 (Fed. Cir. 2004).

With the foregoing legal precedent in mind, the Applicant addresses the Section 103 rejections below.

Claims 1, 3, 12, and 13

The Applicant respectfully asserts that claims 1, 3, 12, and 13 are allowable over the cited references, because the cited references, taken alone or in combination, fail to disclose or suggest each and every feature of these claims. For example, independent claim 1 recites “a beamformer that is adapted to determine transmission weighting coefficients ... based on the *difference between the reception correlation data and the fixed beam weighting coefficients.*” (Emphasis added). Independent claim 12 recites a method comprising “determining transmission weighting coefficients ... based on the *difference between the reception correlation data and the fixed beam weighting coefficients.*” (Emphasis added).

In sharp contrast, neither of the cited references discloses the above-recited features. The Examiner conceded in the Office Action that the Frank reference did not disclose the above-described features. *See* Office Action, page 4, lines 4-6. However, contrary to the Examiner's assertion, the Trippett reference does not cure this deficiency in the Frank reference. More specifically, the Trippett reference does not disclose "reception correlation data," "fixed beam weighting coefficients," or taking the difference between these two values.

The Trippett reference is directed towards an "antenna system for nulling a jamming signal." Abstract, lines 1-2. This system employs a "band pass filter 64 [that] eliminates the desired signal from this feed path 58 so that the output 66 is everything that corresponds to unknown signals, such as jammer signals or noise." Trippett, col. 5, lines 3-8. Once the jamming signal has been identified, this information is used to "null the jamming signals by minimizing output jammer power" from an adaptive beamforming system to reduce the effect of the jamming signals. *See* Trippett, col. 5, line 54-col. 6, line 18. As stated above, this process does not involve "reception correlation data" or "fixed beam weighting coefficients," as recited in claims 1 and 12, much less computing the difference between them.

The Applicant respectfully asserts that the Examiner has misconstrued the Trippett reference to arrive at the pending 103 rejection. First, the "correlation information" from the Trippett reference cited by the Examiner is clearly not "*reception*

correlation data.” On the contrary, the “correlation information” is merely a correlation (or overlap) between a jamming signal and a signal intended for transmission. *See*, Trippett, col. 5, lines 54-67. On the contrary, the “reception correlation data” recited in the present claims involves data based on data “obtained from uplink communications from a mobile transceiver.” Specification, page 16, lines 15-17; *see also* lines 17-21. Accordingly, the Applicant respectfully reminds the Examiner that the *specification* is “the primary basis for construing the claims.” *See Phillips v. AWH Corp.*, 75 U.S.P.Q.2d 1321 (Fed. Cir. July 12, 2005) (citations omitted). As such, it is clear that the Trippett reference does not disclose “*reception* correlation data,” as described in claims 1 and 12.

Next, the Trippett reference also lacks the above-recited “fixed beam weighting coefficients.” In sharp contrast, the Trippett discloses an adaptive (*i.e.*, non-fixed) beamforming system *See* Trippett, col. 6, lines 1-8; *see also* Fig. 2. Although the Trippett system involves “complex weights,” these weights are clearly not “fixed beam weighting coefficients,” because the system disclosed in the Trippett reference is not a fixed beamforming system. *See id.*

Lastly, the Trippett reference also does not disclose computing a *difference* between the correlation information and the complex weights (the attributes of the Trippett reference that the Examiner has erroneously equated with the above-described claim features). Instead, the Trippett reference discloses calculating a new complex weight *based on* adaptive step size information, a previous complex weight, antenna

pattern calculation information, and the correlation information, which, as described above, is merely the overlap between the jamming signal and the signal to be transmitted. *See* Trippett, col. 5, line 67 – col. 6, line 9. As such, it is clear that, contrary to the Examiner's assertions, the Trippett reference does not disclose computing a *difference* between the correlation information and the complex weights.

For at least the reasons set forth above, the Applicant respectfully asserts that neither of the cited references, taken alone or in combination, discloses, teaches, or suggests the above-recited features of independent claims 1 and 12. Accordingly, the Applicant respectfully requests that the Examiner withdraw the pending Section 103 rejection against claims 1 and 12, as well as the claims that depend therefrom.

Claims 2, 5, and 15

As stated above, the Examiner rejected claims 2, 5 and 15 as obvious over the Frank reference in view of the Trippett reference and in further view of the Yetter reference. The Applicant respectfully submits that claims 2, 5 and 15 are allowable based on their dependencies on claims 1 and 12, respectively, because the Yetter reference does not cure the deficiencies described above with regard to the Frank and Trippett references. For at least this reason, claims 2, 5, and 15 are believed to be allowable over the cited references taken alone or in conjunction with each other. Thus, the Applicant respectfully requests withdrawal of the rejection of claims 2, 5, and 15.

Claims 6 and 16

As stated above, the Examiner rejected claims 6 and 16 as obvious over the Frank reference in view of the Trippett reference, in further view of the Yetter reference and in further view of the Ylitalo reference. The Applicant respectfully submits that claims 6 and 16 are allowable based on their dependencies on claims 1 and 12, respectively, because the neither the Yetter reference nor the Ylitalo reference cures the deficiencies described above with regard to the Frank and Trippett references. For at least this reason, claims 6 and 16 are believed to be allowable over the cited references taken alone or in conjunction with each other. Thus, the Applicant respectfully requests withdrawal of the rejection of claims 6 and 16.

Claims 7 and 17

As stated above, the Examiner rejected claims 7 and 17 as obvious over the Frank reference in view of the Trippett reference and in further view of the Ylitalo reference. The Applicant respectfully submits that claims 7 and 17 are allowable based on their dependencies on claims 1 and 12, respectively, because the Ylitalo reference does not cure the deficiencies described above with regard to the Frank and Trippett references. For at least this reason, claims 7 and 17 are believed to be allowable over the cited references taken alone or in conjunction with each other. Thus, the Applicant respectfully requests withdrawal of the rejection of claims 7 and 17.

New Claims

The Applicant respectfully requests that new claims 21-26 be considered. The new claims are fully supported by the specification, and the Applicant respectfully submits that the prior art of record does not disclose or suggest the recited subject matter of new claims 21-26. For example, the Applicant asserts that none of the cited references discloses a “tangible machine readable medium comprising ... code adapted to determine transmission weighting coefficients ... based on the difference between reception correlation data and fixed beam weighting coefficients,” as recited in claim 21, or a system comprising a beamformer “adapted to determine transmission weighting coefficient ... based on the difference between the reception correlation data and one or more fixed beam weighting coefficients,” as recited in claim 25. For at least these reasons, the Applicant respectfully submits that new claims 21-26 are allowable over the cited references.


It is not believed that any fees are required for filing this Response. However, the Commissioner is hereby authorized to charge Deposit Account No. 06-1315; Order No. LUCW:0005/FLE/HOF for any fees which may be required.

Conclusion

The Applicant respectfully submits that all pending claims should be in condition for allowance. However, if the Examiner wishes to resolve any other issues by way of a telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

Date: December 7, 2005



David M. Hoffman
Registration No. 54,175
Fletcher Yoder, P.C.
7915 FM 1960 West, Suite 330
Houston, TX 77070
(281) 970-4545